

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A networked system, comprising:

a message sender for sending a customizable, tag-based message, which includes a reference to a first buffer; and

a message receiver for receiving the customizable, tag-based message, the message receiver being capable of processing the reference in the customizable, tag-based message to cause either a piece of information stored in the first buffer to transfer to a second buffer or a piece of information stored in the second buffer to transfer to the first buffer.

2. The networked system of Claim 1, wherein the customizable, tag-based message includes a body element for containing data, the body element including the reference to the first buffer.

3. The networked system of Claim 2, wherein the reference includes a uniform resource identifier.

4. The networked system of Claim 3, wherein the customizable, tag-based message includes a header element for containing control information.

5. The networked system of Claim 4, wherein the customizable, tag-based message is sent from the message sender to the message receiver via a customizable, tag-based protocol.

6. A networked system, comprising:

a message sender for sending a customizable, tag-based message, which includes a reference to a first buffer;

an intermediary for intercepting the customizable, tag-based message; and

a message receiver for receiving the customizable, tag-based message from the intermediary, the message receiver being capable of processing the reference in the customizable, tag-based message to cause either a piece of information in another buffer to

transfer to a second buffer or a piece of information stored in the second buffer to transfer to the another buffer.

7. The networked system of Claim 6, wherein the customizable, tag-based message includes a header element that contains the reference to the first buffer, the header element further containing an attribute that is associated with the reference to the first buffer.

8. The networked system of Claim 7, wherein the customizable, tag-based message includes a body element that uses the attribute to refer to the first buffer.

9. The networked system of Claim 8, wherein the intermediary is capable of creating a staging buffer from the customizable, tag-based message, the intermediary being further capable of processing the reference in the customizable, tag-based message to create a staging buffer, and causing either a piece of information stored in the staging buffer to transfer to the first buffer or a piece of information stored in the first buffer to transfer to the staging buffer.

10. The networked system of Claim 9, wherein the another buffer of the message receiver is selected from a group consisting of the first buffer and the staging buffer.

11. A computer-readable medium having a customizable, tag-based data structure stored thereon for use by a networked system to process the act of sending information by reference, the data structure comprising:

a header tag that is indicative of control information, the header tag including a service tag that is indicative of a service for representing a buffer, the service tag including a URI attribute that is indicative of a URI of the service representing the buffer and an identifier attribute that is associated with the service tag; and

a body tag that is indicative of data information, the body tag being capable of using the identifier attribute to refer to service representing the buffer.

12. The data structure of Claim 11, further comprising a host tag that is indicative of the host at which the buffer resides.

13. The data structure of Claim 11, further comprising a port tag that is indicative of a network port through which network communication occurs.

14. The data structure of Claim 11, further comprising a contract tag that is indicative of a contract for defining one or more behaviors of the service representing the buffer.

15. The data structure of Claim 11, further comprising a steering tag that is indicative of a steering tag associated with a physical address of the buffer and a length tag that is indicative of the length of the buffer.

16. A networked system, comprising:

a central processing unit;

a piece of memory that includes a first buffer; and

a network interface card that is capable of processing a reference in a customizable, tag-based message to cause either a piece of information stored in the first buffer to transfer to another buffer or a piece of information stored in the another buffer to transfer to the first buffer without requiring the central processing unit to execute copy instructions.

17. The networked system of Claim 16, further comprising a session service for associating an address of the first buffer with a steering tag created by the network interface card.

18. The networked system of Claim 17, further comprising a session manager service for creating the session service and for destroying the session service once the transfer of the piece of information is completed.

19. The networked system of Claim 18, further comprising a sender service for originating the customizable, tag-based message, the sender service invoking the session manager service to initiate the transfer of the information.

20. The networked system of Claim 19, wherein the customizable, tag-based language includes associates the steering tag with a URI of the session service.

21. A computer-implemented method for sending by reference in a customizable, tag-based protocol, the computer-implemented method comprising:

preparing a customizable, tag-based message to include a transfer context, the transfer context including a reference to a first buffer for storing a piece of information without having to embed the piece of information in the customizable, tag-based message; and

sending the customizable, tag-based message to the network.

22. The computer-implemented method of Claim 21, wherein the act of preparing includes associating a steering tag with an address of a first buffer that is capable of storing the piece of information.

23. The computer-implemented method of Claim 22, wherein the act of preparing includes creating an attribute in the transfer context, which is capable of being used as an indirection in a body element of the customizable, tag-based message to refer to the first buffer.

24. The computer-implemented method of Claim 23, further comprising an act of intercepting the customizable, tag-based message by an intermediary to create a staging buffer to mediate between two nodes.

25. The computer-implemented method of Claim 24, further comprising receiving the customizable, tag-based message, the act of receiving processing the reference to cause a transfer of the piece of information to or from the first buffer at one node to or from another buffer at another node without having a central processing unit to execute a copy instruction.

26. A computer-readable medium having computer-executable instructions for implementing a method for sending by reference in a customizable, tag-based protocol, the computer-implemented method comprising:

preparing a customizable, tag-based message to include a transfer context, the transfer context including a reference to a first buffer for storing a piece of information without having to embed the piece of information in the customizable, tag-based message; and

sending the customizable, tag-based message to the network.

27. The computer-readable medium of Claim 26, wherein the act of preparing includes associating a steering tag with an address of a first buffer that is capable of storing the piece of information.

28. The computer-readable medium of Claim 27, wherein the act of preparing includes creating an attribute in the transfer context, which is capable of being used as an indirection in a body element of the customizable, tag-based message to refer to the first buffer.

29. The computer-readable medium of Claim 28, further comprising an act of intercepting the customizable, tag-based message by an intermediary to create a staging buffer to mediate between two nodes.

30. The computer-readable medium of Claim 29, further comprising receiving the customizable, tag-based message, the act of receiving processing the reference to cause a transfer of the piece of information to or from the first buffer at one node to or from another buffer at another node without having a central processing unit to execute a copy instruction.